

1 I CLAIM:

2 1. (Amended) An improved apparatus for feeding flat, rigid, cuttable  
3 material through a powered cutting means comprised of:

4 (a) an input non-skid continuous conveyor belt means, for moving the  
5 material to be cut in a direction parallel to [its] the material's length to [at]  
6 the cutting means;

7 (b) an output non-skid continuous conveyor belt means for moving the  
8 material after it is cut in a direction parallel to [its] the material's length  
9 away from the cutting means;

10 (c) a hold down means to hold the material to be cut against the non-  
11 ski continuous conveyor belt means;

12 (d) a guide means to maintain [the position] a constant horizontal  
13 relationship of the non-skid continuous conveyor belts [means] relative to  
14 the cutting means;

15 (e) a drive means to power [in] the input non-skid continuous conveyor  
16 belt and [an] the output non-skid continuous conveyor belt [means] so  
17 [their rate of movement] both belts have the same operating revolutions  
18 per minute [(RPM)] (fps) [is identical].

19 2. (Amended) Apparatus as defined in Claim 1, wherein said power  
20 cutting means includes one or more circular saw blades adjustably positioned  
21 along the length of a saw drive shaft and positioned between [an] the input non-  
22 skid continuous conveyor belt means and [a] the output non-skid continuous  
23 conveyor belt means, parallel to [their length] the belts' direction of travel and  
24 powered by [a] the motor means communicating with the saw drive shaft.

25 3. (Amended) Apparatus as defined in Claim 1, wherein [said] both  
26 non-skid continuous conveyor belt means include[s] a section of material having  
27 a length greater than its width and having a non-skid top surface and a durable  
28 bottom surface to which is bonded one or more guide 'V' belts, extending

1 parallel to and the entire length of the non-skid continuous conveyor belt and  
2 extending a distance f[or]rom the bottom surface of the non-skid continuous  
3 conveyor belt and having a width so said guide 'V' belt engages a 'V' groove  
4 in the drive means as defined in Claim 1, and having the lengthwise ends of the  
5 material joined together to form a continuous conveyor belt.

6 4. (Amended) An apparatus as defined in Claim 1, wherein said drive  
7 means to power [an] the input and output non-skid continuous conveyor belts  
8 so their rate of movement feet per second [(RPM)] (fps) is identical includes an  
9 inside feed roller on the input side and a feed roller at the input end, said rollers  
10 and a feed bed spanning the distance between them, having 'V' grooves in their  
11 faces of a size to accommodate the guide 'V' belt on the bottom surface of the  
12 non-skid continuous conveyor belts [means], said non-skid continuous belts  
13 [means] being securely fitted around said inside feed roller[s] and the feed  
14 rollers by adjusting the mounting means for the feed rollers on the input and  
15 output ends, wherein the end of the inside feed roller on the input side extends  
16 beyond a right side cover and [its shaft] engages a timing belt which is turned  
17 by the shaft of the inside feed roller on the output side which also extends  
18 beyond the right side cover, said inside feed roller on the output side being  
19 powered by a motor [means] at the end of [its shaft] the inside feed roller which  
20 extends beyond a left side cover, so that both inside feed rollers travel at the  
21 same revolutions per minute (RPM) which, in turn, results in the feed roller at  
22 the input end of the feed roller at the output end also revolving at the same  
23 RPM, being passively driven only by the non-skid continuous conveyor means.

24 5. (Amended) An apparatus as defined in Claim 1, wherein the hold  
25 down means to hold the material to be cut against [a] the non-skid continuous  
26 conveyor belt [means] includes a plurality of hold down rollers and non-marring  
27 surfaces, held down against the material to be cut by a spring loaded arm  
28 means, so said material to be cut is held in contact with the non-skid

1 continuous conveyor belt [means] and in constant relation to the [cutting  
2 means] circular saw blades as [it] the material passes through the [cutting  
3 means] circular saw blades.

4 6. (Amended) An apparatus as defined in Claim 2, wherein the  
5 [powered cutting means is] one or more circular saws, suitable for cutting wood  
6 boards, [and] are capable of being set along the length of the saw drive shaft  
7 by remote means, either manually or by computer.

8 7. (Amended) An apparatus as defined in Claim 3, wherein the non-  
9 skid continuous conveyor belt means is 9/32 inch thick and comprised of a non-  
10 skid top surface of No. 37 Scandara Red Carbox Rough Top on 3 ply 135 pound  
11 polyester with a bottom surface of Friction Surface (Caroxilated nylril X.F.S.),  
12 to which is bonded one or more Browning Manufacturing Company Grip Notch  
13 grip belts, commonly known a an "A" section belt, and having scallop-shaped  
14 cuts partially through its thickness across its width and regularly spaced along  
15 its length parallel to the length of the non-skid continuous conveyor belt.

16 8. (Amended) An apparatus as defined in Claim 5 wherein the hold  
17 down means to hold the material to be cut against [a] the non-skid continuous  
18 conveyor belt includes a plurality of hold down rollers with non-marring  
19 surfaces, held down against the material to be cut by a pneumatic cylinder  
20 loaded are [means], so said material to be cut is held in contact with the non-  
21 skid continuous conveyor belt [means] and in constant relation to the [cutting  
22 means] circular saw blades as [it] the material passes through the [cutting  
23 means] circular saw blades.

24 9. An apparatus as defined in Claim 1, wherein the input non-skid  
25 continuous conveyor belt means and the output non-skid continuous conveyor  
26 belt means are comprised of a single non-skid continuous conveyor belt means  
27 for use in situations where the powered cutting means does not come into  
28 interference with the non-skid continuous conveyor belt means.

1 10. An apparatus as defined in Claim 1, wherein the improved apparatus  
2 is combined in series with one or more other units of the improved apparatus  
3 so that multiple cutting or shaping means may be applied to the flat, ridged,  
4 cuttable material.

5 11. An apparatus as defined in Claim 1, wherein said power cutting  
6 means includes one or more high pressure abrasive cutting means.

7 12. An apparatus as defined in Claim 1, wherein one or more cutting  
8 means are comprised of router cutters.

9 13. Cancelled

10 14. An improved apparatus for feeding wood based cuttable material  
11 having length greater than width through a powered cutting means comprised  
12 of:

13 a) a powered cutting means which includes one or more circular saw  
14 blades adjustably positioned along a saw drive shaft and positioned  
15 between an input non-skid continuous conveyor belt means and an output  
16 non-skid continuous conveyor belt means, for moving material to be cut  
17 in a direction parallel to the material's length, and powered by a motor  
18 communicating with the saw drive shaft;

19 b) an input non-skid continuous conveyor belt means, for moving the  
20 material to be cut in a direction parallel to the material's length to the  
21 circular saw blades, being comprised of a section of material having a  
22 length greater than its width and having a non-skid top surface and a  
23 durable bottom surface to which is bonded one or more guide 'V' belts,  
24 extending the length of the input non-skid continuous conveyor belt and  
25 extending a distance from the bottom surface of the input non-skid  
26 continuous conveyor belt and having a width so said guide 'V' belt  
27 engages a 'V' groove in a drive means to power the input non-skid  
28 continuous conveyor belt, and said input non-skid continuous conveyor

1 belt having the opposite edges of its length joined together to form a  
2 continuous belt;

3 c) an output non-skid continuous conveyor belt means, for moving the  
4 material after it is cut in a direction parallel to the material's length away  
5 from the circular saw blades, being comprised of a section of material  
6 having a length greater than its width and having a non-skid top surface  
7 and a durable bottom surface to which is bonded one or more guide 'V'  
8 belts, extending the length of the output non-skid continuous conveyor  
9 belt and extending a distance from the bottom surface of the output non-  
10 skid continuous conveyor belt and having a width so said guide 'V' belt  
11 engages a 'V' groove in a drive means to power the output non-skid  
12 continuous conveyor belt, and said output non-skid continuous conveyor  
13 belt having the opposite edges of its length joined together to for a  
14 continuous conveyor belt;

15 d) a drive means to power the input non-skid continuous conveyor belt  
16 and the output non-skid continuous conveyor belt, so the rate of  
17 movement (feet per second fps) of the belts is identical, being comprised  
18 of an inside feed roller and a feed roller separated by a feed bed, around  
19 which is stretched the input non-skid continuous conveyor belt, as  
20 described above, with the inside feed roller being at the end of the input  
21 non-skid continuous conveyor belt closest to the circular saw blades and  
22 an inside feed roller and a feed roller separated by a feed bed, around  
23 which is stretched the output non-skid conveyor belt with the inside feed  
24 roller being at the end of the output non-skid continuous conveyor belt  
25 closest to the circular saw blades, each non-skid continuous conveyor  
26 belt being securely fitted around the inside feed roller and the feed roller  
27 by adjusting the mounting means for the feed roller, while the end of both  
28 inside feed rollers on the same side of the improved apparatus extend

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beyond the side cover and engage a timing belt which is powered by the shaft of the inside feed roller on the output side, which inside feed roller is powered by a motor at the end thereof which extends from the opposite side of the improved apparatus, so that both inside feed rollers travel at the same revolutions per minute (RPM) which, in turn, results in the feed roller at the input end and the feed roller at the output end also revolving at the same revolutions per minute (RPM), both being passively driven only by the non-skid continuous conveyor belts, and the 'V' belt engages the 'V' groove in the feed beds and feed rollers with the result that the non-skid continuous conveyor belts do not move horizontally on the rollers, the material does not move horizontally while being cut, and the material moves at a constant rate (fps) through the improved apparatus;

e) a hold down means to hold the material to be cut against the non-skid continuous conveyor belt being comprised of a plurality of hold down rollers with non-marring surfaces, held down against the material to be cut by spring pneumatic cylinder loaded arm means, so said material to be cut is held in contact with the non-skid continuous conveyor belts and in constant relation to the circular saw blades as the material to be cut passes through the improved apparatus.